RS - INT
REGENERATION
Seeding
Fps-6

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A TEST OF DIRECT SEEDING USING POISONS FOR RODENT CONTROL IN SOUTHERN IDAHO

WORKING PLAN

By

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INTRODUCTION

The successful seeding trials in the white pine type of northern Idaho[1/] using poisons for rodent control are sufficiently encouraging to plan a similar test in the ponderosa pine type of southern Idaho. Such a test is proposed for the fall of 1941.

The purpose of this test is to determine whether or not the poisoned bait used in northern Idaho is effective in controlling seed-eating rodents under the conditions in the ponderosa pine type of southern Idaho and to determine whether or not ponderosa pine seedlings started from seed will survive if such control is obtained.

Evidence is available indicating that a cheaper control method than the one proposed here may be satisfactory. A comparison of three different control methods are proposed for next fall in Region One to get definite evidence on whether a cheaper method will work. Hence no such tests will be proposed here. (See memorandum of January 24, 1941, RS-NRM, copy attached.)

1/ Schopmeyer, C. S. Successful forestation by direct seeding using poisons for rodent control. Research Note No. 1. Northern Rocky Mountain Forest and Range Experiment Station, January 1940.

Plot Descriptions and Technique

For this test it is desirable to have an area of not less than 100 acres burned in the summer of 1941 with a north facing aspect and a slope of not more than 40 percent. Any areas in the ponderosa pine type which may be burned in 1941 will be given careful consideration as potential seeding sites. On the area selected for sowing a square plot of 50 acres will be traversed for sowing. Around the 50 acre plot a buffer strip 5 chains wide will be marked off which will be poisoned but not seeded. Traversing should be done not later than October 3, 1941.

About two weeks before sowing, the area should be treated with a poisoned bait which consists of hulled sunflower seed treated with thallium sulfate. This bait is spread over the area using one pound per acre. The bait may be obtained from the Pocatello Supply Depot of the Fish and Wildlife Service by special arrangements with the Director of the Wildlife Research Laboratory, Denver, Colorado. Bait spots are to be placed at intervals of 20 feet in rows 20 feet apart. Specially designed spoons will be used for measuring out the bait for each spot. Extreme caution should be used in handling the bait. Thallium sulfate is a deadly poison and may be absorbed through the skin. Rubber coated cloth gloves should be worn by crew members while spreading the bait and these gloves should not be used for any other purpose. For carrying the bait, one gallon cans similar to the type used for Prestone are suitable if the tops are cut out and wire handles attached. These cans should be buried after being used for carrying bait.

The poisoning job should be started on October 6 if clear weather prevails. Acceptance of the bait by rodents is far better in clear weather than in rainy or cloudy weather. A ten-man crew should be used for the job. Supervision will be provided by the Experiment Station. To cover the 50 acre plot and the 25 acre border strip, 20 man days of labor will probably be required. Since the area to be selected will probably be covered with ashes, sod, or unburned debris, bait should be placed in prepared spots of bare mineral soil about 12 inches in diameter.

Using a 10 man crew with the men working in pairs, one man in each pair should prepare the spots with a hazel hoe and the other should follow him and place the bait on the prepared spot. This operation will enable the rodents to find the bait more readily than they would if the bait was buried in a layer of ashes or twigs and duff. If an area is selected which has numerous bare spots, the bait spot preparation can be eliminated and the labor requirement cut in half.

This poisoning treatment has never been used, to the author's knowledge, in grazing country, hence the probability of cattle or sheep eating the bait is not known. To be on the safe side, however, the area should be well posted about 5 chains beyond the outermost edge of the poisoned bait with signs spaced at an average interval of 4 chains around the perimeter. Forms 207 and 766, closed to all grazing and warning of poisoned areas, used together should make adequate signs for the job. Approximately 50 of each will be required. In addition to the signs, the forest officer who issues grazing permits in the vicinity of the poisoned area should be instructed to warn all permittees in the vicinity of the area of its danger.

On October 20, if one week of clear weather has elapsed since poisoning, seeding should be started. For this job 75 lbs. of ponderosa pine seed of a suitable source for the area should be made available. This amount includes a 15 percent surplus over calculated requirements to allow for accidental loss on the job and overestimation of the required number of seeds per spot on the part of the sowing crews. Sowing will be done in spots with an 8 x 8 foot spacing. In preparing the spots an area of mineral soil about 18 inches in diameter should be exposed using a hazel hoe to scrape off ashes, unburned debris or sod which may be encountered. Approximately 15 seeds should be scattered within the prepared spot and covered with 3/8 inch of mineral soil.

Crew members will be provided with cans similar to those used in Region One for carrying their supply of seeds. The can is a standard size 2½ tin can fitted with a metal belt loop and a wooden lid mounted on a spring hinge. The cans used in Region One were made up for $0.80 each. Arrangements will be made to have 24 such cans made up for use here.

Sowing time for previous installations has been approximately 2 man days per acre. On this basis 100 man days will be required for the 50 acres of the proposed test. Availability of labor will probably be a determining factor in the selection of an acre for the test.

Sampling Procedure and Observations

Germination and survival counts will be made on 12 sample plots of 25 spots each distributed systematically over the area. As a check on the effectiveness of the poisoning treatment, a plot of 25 screened spots will be installed beside each plot of the crew sown spots. Differences in germination and in damage caused by rodent clipping on seedlings between the screened and unscreened plots is expected to provide a measure of the effectiveness of the poisoning treatment.

For the screened spot installation about 5 man days of labor will be required in addition to that needed for poisoning and sowing of the whole area.

Germination counts should be made in June 1942 and first year survival counts in October 1942. If the seedling is successful, that is, with seedlings in 40 percent or more of the number of spots sown at the end of the first growing season, annual survival counts should be made each fall for the first five years after sowing or until stocking drops below 200 spots per acre.

PROPOSED WORK SCHEDULE FOR SEEDING PLOT

Installation

Job	Date
Plot traverse and posting	October 3-4, 1941
Spreading bait	October 6-7, 1941
Sowing	October 20-25, 1941

Materials and Equipment Required for Direct Seeding Test

			Estimated Cost
*	1 ea.	Compass, tape, Abney, and Jacob staff	$
	75 lbs.	Rodent bait (thallium treated sunflower seed) . .	25.00
	75 lbs.	Ponderosa pine seed	
	5	Measuring spoons for bait	2.00
*	5	One gallon cans with wire handles	
	5 prs.	Rubber coated cloth gloves for bait spreading crew	1.00
	50	Signs - Form 207, Closed to all grazing	
	50	Signs - Form 766, Warning to stock grazers of poisoned area	
	24	Hazel hoes	
	24	Specially designed seed cans for seeding crew . .	20.00
	24	Measuring spoons for seeding crew	4.00
	16	Round posts 7ft x 5in	
*	300	Split stakes 2ft x lin.	
*	300	Seed spots screens	
		Total estimated cash expenditures . .	$ 52.00

*Items will be provided by the Experiment Station.

Costs for items available within the Regional organization or which can be made with labor incidental to the job are not estimated in this list.

LABOR REQUIREMENTS (CCC)

	CCC Man Days
10 men for 2 days starting on or about October 6, 1941	20
24 men for 5 days starting on or about October 20, 1941	120
Total	140

Overhead Requirements

2 CCC foremen for 5 days starting on or about October 20, 1941	10
Traversing, posting and technical supervision by Experiment Station for entire job but not including travel time for selection of area	10
Total	20

Date

Submitted by C. A. Schopmeyer June 21, 1941

Approved by _____ _____

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